

**B.Sc. 3rd Semester (Honours) Examination, 2018 (CBCS)**

**Subject : Zoology**

**Paper : SEC-I**

**Time: 2 Hours**

**Full Marks: 40**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

*Candidates are instructed to attempt either **Section-A** or **Section-B***

**Section-A**

**(Apiculture)**

**Group-A**

1. Answer *any five* questions from the following: 2×5=10
- (a) Write the chemical composition of honey.
  - (b) Name the causative agent of Nosema and Acarine disease of adult honey bee.
  - (c) Who is known as the father of modern bee science and in which year firsts 'bee keeping research station' in India was established?
  - (d) What are waggle and round dance?
  - (e) What is propolis?
  - (f) Write four economically important species of honey bee found in India.
  - (g) What is royal-jelly and royal-actin?
  - (h) What is swarming?

**Group-B**

Answer *any two* questions from the following: 5×2=10

- 2. Describe briefly about the Langstroth five in artificial bee rearing method. 5
- 3. What is Nuptial flight? Mention any four uses of honey. 1+4=5
- 4. Write down briefly about the basic bee keeping equipments. 5
- 5. Describe briefly about the social behaviour in honey bees. 5

**Group-C**

Answer *any two* questions from the following: 10×2=20

- 6. Write down the causative organisms, symptoms and control measures of 'sacbrood' disease and any two larval diseases of honey bees. Name two natural enemies of honey bee. 8+2=10

7. Write brief accounts on: 5+5=10
- Apiculture as cottage industry
  - Bee pasturage
8. Write down the modern methods of extraction of honey.
9. Briefly describe the modern methods in employing artificial beehives for cross pollination in horticultural gardens.

### Section-B (Sericulture)

#### Group-A

1. Answer *any five* questions from the following: 2×5=10
- Mention the scientific names of muga silk worm and its host plant. 1+1=2
  - What is the use of black-boxing of silk worm eggs? 2
  - Write full form of RKO and mention its use. 1+1=2
  - Give one example of univoltine and one of bivoltine silk worm. 1+1=2
  - Mention the locations of silk glands. State the function of Lyonet's glands. 1+1=2
  - Write the names of two sericulture research institute in India. 2
  - Name any two proteins present in silk thread. 2
  - What is mounting? Mention two mounting methods. 1+1=2

#### Group-B

- Answer *any two* questions from the following: 5×2=10
- Define silk. Write the chemical composition of silk. 2+3=5
  - With neat sketch, describe life cycle of *Bombyx mori*. 2+3=5
  - Write the scientific names of one fly and one beetle pest of silk worm. Write symptoms and control of the disease caused by any one of them. (1+1)+(1½+1½)=5
  - Mention two Indian varieties of mulberry plant. How should land be prepared for establishment of mulberry garden? What is mulching? 2+2+1=5

#### Group-C

- Answer *any two* questions from the following: 10×2=20
- Describe rearing room of silk worm larva. Mention various types of mount ages. 7+3=10
  - Write the name (of the disease), causative agent, symptom, remedies of one bacterial disease and one viral disease of silk worm. (1+1+1½+1½)×2=10

(3)

SH-III/Zoology/SEC-I/18

8. Write the location and nature of silk gland. Describe the structure of silk gland with proper diagram. State the uses of silk. (1+1)+(3+2)+3=10

9. Write short notes (any two): 5×2=10

- (a) Silk route and its importance
- (b) Present status of sericulture
- (c) Uses of silk

Full Marks: 40

Candidates are required to give their answers in their own words as far as practicable.

Candidates are allowed to attempt either Section-A or Section-B

Section-A

Language

Group-A

1. Answer any five questions from the following: 2×5=10

- (a) Write the structure and function of honey bee.
- (b) Name the primary and secondary sex characters of honey bee.
- (c) Who is called as the mother of modern bee keeping and in what year did he keep research on bees? (2×2=4)
- (d) What are wedge and round dance?
- (e) What is queen cell?
- (f) Write two economically important species of honey bee found in India.
- (g) What is royal jelly and royal axis?
- (h) What is swarming?

Group-B

Answer any two questions from the following: 5×2=10

- 1. Describe briefly about the Langstroth hive in artificial beekeeping. 5
- 2. What is Nuptial flight? Mention any four uses of honey. 1+4=5
- 3. Write down briefly about the basic bee keeping equipments. 5
- 3. Describe briefly about the social behaviour in honey bees. 5

Group-C

Answer any two questions from the following: 10×2=20

- 4. Write about the causative organisms, symptoms and control measures of 'chalkbrood' disease and any two natural enemies of honey bees. 8+2=10